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ABSTRACT

The United States Training and Employment Service General Aptitude Test Battery (GATB), first published in 1947, has been included in a continuing program of research to validate the tests against success in many different occupations. The GATB consists of 12 tests which measure nine aptitudes: General Learning Ability; Verbal Aptitude; Numerical Aptitude; Spatial Aptitude; Form Perception; Clerical Perception; Motor Coordination; Finger Dexterity; and Manual Dexterity. The aptitude scores are standard scores with 100 as the average for the general working population, and a standard deviation of 20. Occupational norms are established in terms of minimum qualifying scores for each of the significant aptitude measures which, when combined, predict job performance. Cutting scores are set only for those aptitudes which aid in predicting the performance of the job duties of the experimental sample. The GATB norms described are appropriate only for jobs with content similar to that shown in the job description presented in this report. A description of the validation sample is included. (AG)

ED 066482

TECHNICAL REPORT

ON

STANDARDIZATION OF THE GENERAL APTITUDE TEST BATTERY

FOR

CREDITMAN (ret. tr.; whole. tr.) 0-85.11

B-600 S-320

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TM 001 966

U. S. Employment Service
in Cooperation with
California State Employment Service

October 1964

GATB # 2525

STANDARDIZATION OF THE GENERAL APTITUDE TEST BATTERY

FOR

CREDITMAN (ret. tr.; whole. tr.) 0-85.11

B- 600 S-300

Summary

The General Aptitude Test Battery, B-1002B, was administered to a final sample of 59 Creditmen 0-85.11 employed by various petroleum companies in Los Angeles, California. The criterion consisted of supervisory ratings. On the basis of mean scores, standard deviations, correlations with the criterion, job analysis data and their combined selective efficiency, V-Verbal Aptitude, Q-Clerical Perception and K-Motor Coordination were selected for inclusion in the final test norms.

GATB Norms for Creditman 0-85.11, B-600 S-300

B-1001			B-1002		
Aptitude	Tests	Minimum Acceptable Aptitude Score	Aptitude	Tests	Minimum Acceptable Aptitude Score
V	CB-1- J	90	V	Part 4	90
Q	CB-1- B	110	Q	Part 1	110
T	CB-1- G CB-1- K	100	K	Part 8	100

Effectiveness of Norms

The data in Table IV indicate that only 68 percent of the non-test-selected workers used for this study were good workers; if the workers had been test-selected with the above norms, 78 percent would have been good workers. 32 percent of the non-test-selected workers used for this study were poor workers; if the workers had been test-selected with the above norms, only 22 percent would have been poor workers.

TECHNICAL REPORT

I. Purpose

This study was conducted to determine the best combination of aptitudes and minimum scores to be used as norms on the General Aptitude Test Battery for the occupation of Creditman 0-85.11.

II. Sample

A. Description

During the period between March 18, 1964 and May 7, 1964, the General Aptitude Test Battery, B-1002B, was administered to 62 male Creditmen 0-85.11 employed by various petroleum companies in Los Angeles, California. The names of the participating companies are as follows:

Name
Mobile Oil Company
Richfield Oil Corporation
Tidewater Oil Company
Texaco, Incorporated
Union Oil Co. of California

All companies involved have similar hiring practices and applicant requirements.

All applicants are required to prepare a standard job application form, have an oral interview with a Personnel Department interviewer, and a final interview conducted by a supervisor in the credit department. At least two years of college is preferred. A background in business education is considered helpful. On-the-job training is provided with length of training time varying between six to twelve months, depending upon the individual being trained.

Work of individuals in the wholesale and retail credit departments in all companies was considered comparable, therefore, individuals from both departments were selected for inclusion in the study.

Two workers were dropped from the sample because of lack of experience and one because of a transfer from the department under conditions which precluded an objective job performance rating from his supervisor. Therefore, the final sample consisted of 59 males employed as Creditmen. All workers in the sample are considered experienced workers.

TABLE I

Means (M), Standard Deviations, (σ), Ranges, and the Pearson Product-Moment Correlations with the Criterion (r) for Age, Education, and Experience

N=59	M	σ	Range	r
Age (years)	33.6	9.0	23-62	.139
Education (years)	15.1	1.4	12-17	-.068
Experience (months)*	90.5	88.3	9-360	.162

*Total experience as Creditman

III. Job Description

Job Title: Creditman (ret. tr.; whole. tr.)

Job Summary: Analyzes credit of retail and wholesale customers, performing variety of duties, such as credit investigation, past-due-accounts control, issuance, regulation, and cancellation of credit cards, report writing, and instigation of legal procedures and court actions.

Work Performed: Investigates credit status of individual applying for credit: Reviews customer's application to analyze credit history. Verifies credit references by telephone, telegram or letter. Authorizes ordering of credit reports from credit investigation firms.

Analyzes credit information and financial solvency of individual applicant in determining whether to establish or decline credit. Evaluates and makes recommendation on all loan proposals. Requests applicants to provide guarantors or co-signers when necessary. Makes written report for use as basis for granting or denying credit.

Controls accounts: Reviews and analyzes special codings and figures at least twice each month on "Analysis of Accounts Sheets." Prepares and maintains a continuous nine-month forecast of possible bad debts. Determines most effective method for collecting past-due accounts. Writes letters, telephones, sends telegrams, or makes personal contact to collect past-due accounts, using tact to maintain good customer relations. Places uncollectable accounts with collection agencies or attorneys, and maintains contact to keep abreast of proceedings. Testifies in court, depending upon case. Receives bad checks and contacts customers to collect payment.

Regulates disposition of credit card accounts: Recalls and cancels unused or misused credit cards. Maintains up-to-date list of credit card cancellations for dealer notification and information. Calls on sales and other company personnel to aid in credit card recovery and collection procedures. Makes

telephone calls and writes letters in attempt to recover lost, stolen and wild credit cards. Writes letters and contacts various law enforcement and credit agencies to trace skip-accounts or customers still using wild credit cards.

Writes and compiles reports: Computes percentages for past-due-account reports, using rotary calculator and adding machine. Fills out other forms by computing and adding figures to show account inventory for Management analysis. Conducts special interviews to provide information for planning or for support and explanation of financial statements. Occasionally breaks in or trains new personnel.

IV. Experimental Battery

All the tests of the GATB, B-1002B, were administered to the sample group.

V. Criterion

The criterion data collected consisted of two sets of independent ratings made by the first-line supervisor on USES Form SP-21, "Descriptive Rating Scale." A period of at least two weeks elapsed between the first and second ratings. The rating scale consisted of nine items covering different aspects of job performance, with five alternatives for each item. Weights of one through five indicating the degree of job proficiency attained were assigned to each alternative so that the minimum possible score was nine and the maximum forty-five. A reliability coefficient of .89 was obtained for the criterion. Therefore, the two sets of ratings were combined, resulting in a distribution of final scores of 26-83, with a mean score of 64.0 and a standard deviation of 11.1.

VI. Qualitative and Quantitative Analyses

A. Qualitative Analysis

On the basis of the job analysis data, the following aptitudes were rated "important" for success in this occupation:

Intelligence (G) - required to learn and retain knowledge of company policies and procedures. Ability to reason and make decisions based upon knowledge of human behavior and analysis of data. Ability to use diplomacy in acquiring pertinent information.

Verbal Aptitude (V) - required to conduct interviews, write letters, analyze and document information for court proceedings and write reports for basis of granting or denying credit.

Numerical Aptitude (N) - required to compute percentages, and compute and add figures to show current credit operation.

Clerical Perception (Q) - required to perceive pertinent detail in tabulated material, quickly analyze variance in columns of figures.

B. Quantitative Analysis:

TABLE II

Means (M), Standard Deviations (σ), and Pearson Product-Moment Correlations with the Criterion (r) for the Aptitudes of the GATB; N = 59

Aptitudes	M	σ	r
G-Intelligence	118.4	14.9	.193
V-Verbal Aptitude	117.0	16.1	.200
N-Numerical Aptitude	113.7	15.8	.221
S-Spatial Aptitude	112.9	17.7	-.029
P-Form Perception	109.1	18.4	.020
Q-Clerical Perception	121.0	14.2	.140
K-Motor Coordination	116.6	19.0	.261*
F-Finger Dexterity	93.4	17.9	-.081
M-Manual Dexterity	108.0	16.6	.235

*Significant at the .05 level

C. Selection of Test Norms:

TABLE III

Summary of Qualitative and Quantitative Data

Type of Evidence	Aptitudes								
	G	V	N	S	P	Q	K	F	M
Job Analysis Data									
Important	X	X	X			X			
Irrelevant									
Relatively High Mean	X	X				X	X		
Relatively Low Sigma	X					X			
Significant Correlation with Criterion							X		
Aptitudes to be Considered for Trial Norms	G	V				Q	K		

Trial norms consisting of various combinations of aptitudes G, V, Q, and K with appropriate cutting scores were evaluated against the criterion by means of the Phi Coefficient technique. A comparison of the results showed that B-1002 norms consisting of V-90, Q-110, and K-[illegible] had the

VII. Validity of Norms

The validity of the norms was determined by computing a Phi Coefficient between the test norms and the criterion and applying the Chi Square test. The criterion was dichotomized by placing 32 percent of the sample in the low criterion group because this percent was considered to be the unsatisfactory or marginal workers.

Table IV shows the relationship between test norms consisting of Aptitudes V, Q, and K with critical scores of 90, 110 and 100, respectively, and the dichotomized criterion for Creditman 0-85.11. Workers in the high criterion group have been designated as "good workers" and those in the low criterion group as "poor workers."

TABLE IV

Validity of Test Norms for Creditman 0-85.11
(V-90, Q-110, K-100)

N = 59	Non-Qualifying Test Scores	Qualifying Test Scores	Total
Good Workers	11	29	40
Poor Workers	11	8	19
Total	22	37	59

Phi Coefficient = .29
x^2 = 5.074
P/2 < .025

The data in the above table indicate a significant relationship between the test norms and the criterion for the sample.

VIII. Conclusions

On the basis of the results of this study, Aptitudes V, Q, and K with minimum scores of 90, 110, and 100, respectively, have been established as B-1002 norms for the occupation of Creditman 0-85.11. The equivalent B-1001 norms consist of V-90, Q-110 and T-100.

IX. Determination of Occupational Aptitude Pattern

The data for this study did not meet the requirements for incorporating the occupation studied into the January 1962 edition of Section II of the Guide to the Use of the General Aptitude Test Battery. The data for this sample will be considered for future groupings of occupations in the development of new occupational aptitude patterns.